CLAIMS

1-37. *(Canceled)*

38. *(new)* A method comprising:

predecoding a compressed video stream including A-frames and B-frames so that it includes pre-decoded A-frames and undecoded B-frames, said A-frames being anchor frames and including either only I-frames or only I-frames and P-frames; and

after said predecoding, in response to a random-access frame request for a target frame,

in the event said target frame is an A frame, displaying said frame without further decoding as a function of another frame or frames, and

in the event said target frame is a B frame, decoding said frame as a function of said A-frames to yield a decoded B frame and displaying said decoded B frame.

39. *(new)* A method as recited in Claim 38 wherein said video stream includes a table of contents.

40. *(new)* A method as recited in Claim 38 wherein said table of contents identifies said frames by sequence and image.

41. *(new)* A method as recited in Claim 38 wherein said predecoding involves predecoding motion vectors associated with P-frames, so that, in the event said target frame is a B frame, said decoding is in part a function of predecoded motion vectors.

42. *(new)* A method as recited in Claim 38 further comprising encoding said video stream so that said A-frames include only I-frames and said B-frames are ordered in said video stream to provide for spatial scaleability.

43. *(new)* A system comprising computer-readable storage media encoded with a video processing program for encoding or decoding a video stream in which all B-frames are preceded by all A-frames and said A-frames are preceded by a table of contents, said A-frames including either only I-frames or only I-frames and P-frames.

44. *(new)* A system as recited in Claim 43 wherein said video stream includes motion vectors for P-frames, said motion vectors preceding said B-frames in said video stream.

45. *(new)* A system as recited in Claim 43 further comprising a processor for executing said video processing program so as to decode said video stream so that said A-frames are pre-decoded.

46. *(new)* A system as recited in Claim 44 wherein said processor provides for responding to a random access frame request for display of a target frame by:
in the event said target frame is an A-frame, displaying the target frame without decoding it as a function of one or more other frames, and
in the event said target frame is a B-frame, decoding it as a function of A-frames.

47. *(new)* A system as recited in Claim 46 wherein said processing decodes a B-frame at least in part as a function of a P-frame and motion vectors associated with said P-frame.